

What is claimed is:

1. Platinum temperature sensor comprising:

a ceramic substrate;

a platinum thin-film resistor applied to the ceramic substrate;

a ceramic cover layer; and

a connecting layer produced from a ceramic green sheet by pressure and temperature treatment, by means of which the ceramic cover layer is connected with the ceramic substrate in such a way that the platinum thin-film resistor is sealingly encapsulated with regard to the environment.

2. Platinum temperature sensor according to claim 1 wherein the connecting layer is formed as a continuous face on the ceramic substrate and the platinum thin-film resistor.

3. Platinum temperature sensor according to claim 1 wherein the connecting layer is applied in a boarder area surrounding the platinum thin-film resistor on the ceramic substrate.

4. Platinum temperature sensor according to claim 1 wherein the connecting layer is generated from an Al_2O_3 green-layer.

5. Platinum temperature sensor comprising:

a ceramic substrate;

a platinum thin-film resistor applied to the ceramic substrate;

a ceramic cover layer; and

a connecting layer made of a glaze that is applied to the ceramic substrate in a boarder area surrounding the platinum thin-film resistor by means of which the ceramic cover layer is connected with the ceramic substrate in such way that the platinum thin-film resistor is sealingly encapsulated with regard to the environment.

6. Platinum temperature sensor according to claim 1 wherein the ceramic substrate is made of Al₂O₃.
7. Platinum temperature sensor according to claim 1 wherein the ceramic cover layer is made of Al₂O₃.
8. Platinum temperature sensor according to claim 1 wherein a sealing cover is applied to the outer peripheral edges of the layer structure consisting of ceramic substrate, connecting layer and ceramic cover layer.
9. Platinum temperature sensor according to claim 8 wherein the sealing layer is made of glass.
10. Method for producing a platinum temperature sensor comprising the steps of:
 - a) providing a fired ceramic substrate with a platinum thin-film resistor applied to the main surface thereof;
 - b) applying a connecting layer made of a ceramic green layer to the main surface of the ceramic substrate; and
 - c) applying a fired ceramic cover layer to the connecting layer in such a way that the platinum thin-film resistor is sealingly encapsulated with regard to the environment by subjecting the ceramic green layer to a temperature treatment under application of pressure in such a way that the ceramic substrate and the ceramic cover layer will be connected.
11. Method according to claim 10 wherein the connecting layer is applied as a continuous face in step b).
12. Method according to claim 10 wherein the connecting layer is applied to the ceramic substrate in a border area surrounding the platinum thin-film resistor in step b).
13. Method according to claim 10 wherein a sealing layer is applied to outer peripheral edges of the layer structure consisting of ceramic substrate, connecting layer and ceramic cover layer.

14. Platinum temperature sensor according to claim 5 wherein the ceramic substrate is made of Al_2O_3 .

15. Platinum temperature sensor according to claim 5 wherein the ceramic cover layer is made of Al_2O_3 .

16. Platinum temperature sensor according to claim 5 wherein a sealing cover is applied to the outer peripheral edges of the layer structure consisting of ceramic substrate, connecting layer and ceramic cover layer.

17. Platinum temperature sensor according to claim 16 wherein the sealing layer is made of glass.